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Hydrocarbon Liquids - Manual Sampling (ISO 3170:2025)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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EN ISO 3170

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Supersedes EN ISO 3170:2004

English Version

Hydrocarbon Liquids - Manual Sampling (ISO 3170:2025)

Hydrocarbures liquides - Échantillonnage manuel (ISO 3170:2025)

Flüssige Mineralölerzeugnisse - Manuelle Probenahme (ISO 3170:2025)

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European foreword

This document (EN ISO 3170:2025) has been prepared by Technical Committee ISO/TC 28 "Petroleum and related products, fuels and lubricants from natural or synthetic sources" in collaboration with Technical Committee CEN/TC 19 “Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin” the secretariat of which is held by NEN.

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International Standard

ISO 3170

Hydrocarbon Liquids — Manual sampling

Hydrocarbures liquides — Échantillonnage manuel

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ISO copyright office

CP 401 • Ch. de Blandonnet 8

CH-1214 Vernier, Geneva

Phone: +41 22 749 01 11

Email: copyright@iso.org

Website: www.iso.org

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 28, *Petroleum and related products, fuels and lubricants from natural or synthetic sources*, Subcommittee SC 2, *Measurement of petroleum and related products,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 19, *Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 3170:2004), which has been technically revised.

The main changes are as follows:

— document title amended to reflect the expanded scope of the document for non-petroleum liquids;

— inclusion of an equal representation of the closed and restricted sampling devices in addition to the traditional open sampling devices;

— expanded Clause 3 and the Bibliography;

— added Clause 4.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document can be used in conjunction with ISO 3171.

This document specifies standard conditions and methods for obtaining samples of liquid/semi-liquid hydrocarbons from a tank, drum or pipeline by manual means. If the hydrocarbon to be sampled is non-homogeneous, showing significant variations in composition or containing sediments and water, samples taken manually should not be expected to be representative, but can enable the degree of non-homogeneity to be assessed and estimates of quality and quantity to be made.

The procedures specified in this document are intended to minimize or eliminate losses of light ends from samples. Such losses can occur during the handling or transfer of samples, thereby making them non-representative of the bulk.

The procedures specified provide samples for:

a) the determination of the liquid/hydrocarbon quality;

b) the determination of the water content;

c) the determination of other contaminants that are not considered to be part of the liquid hydrocarbon.

If the sampling conditions for purposes a), b) and c) are in conflict, separate samples are required.

The sampling procedures for tank contents that are not homogeneous specified in this document are intended to enable the degree of non-homogeneity to be assessed and estimates of quality and quantity to be made.

Procedures for the sampling of liquid hydrocarbons from tanks under inert gas pressure are included, together with techniques for sampling from tanks which are equipped with vapour emission control systems.

International Standard **ISO 3170:2025(en)**

Hydrocarbon Liquids — Manual sampling

1 Scope

This document specifies the manual methods used for obtaining samples of liquid or semi-liquid hydrocarbons, tank residues and deposits from fixed tanks, railcars, road vehicles, ships and barges, drums and cans, or from liquids being pumped in pipelines.

It applies to the sampling of liquid products, including crude oils, intermediate products, synthetic hydrocarbons and bio fuels, which are stored at or near atmospheric pressure, or transferred by pipelines as liquids at elevated pressures and temperatures.

The sampling procedures specified are not intended for the sampling of special petroleum products which are the subject of other International Standards, such as electrical insulating oils (covered in IEC 60475), liquefied petroleum gases (covered in ISO 4257), liquefied natural gases (covered in ISO 8943) and gaseous natural gases (covered in ISO 10715).

This document refers to methods of sampling and sampling equipment in use at the time of writing. It does not exclude the use of new equipment, provided that such equipment enables samples to be obtained according to the requirements and procedures of this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1998 (all parts), *Petroleum industry — Terminology*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3171, *Petroleum liquids — Automatic pipeline sampling*

IP 476, *Petroleum liquids — Automatic pipeline sampling*